

## Data Used in the Clean Water Action Plan Unified Watershed Assessment

**Name of Data Layer:** Imperiled Aquatic Species (non-tidal)

**Definition:** Living Resources indicator that rates watersheds according to number and diversity of aquatic species listed as rare, endangered, threatened, or otherwise of special concern.

**Data Sources:** MD Dept. Natural Resources - Maryland Biological Stream Survey, Wildlife and Heritage Division, and Fisheries Service

**Data Type:** Condition ☒ Stressor ☐ Vulnerability ☐ Trend ☐ Growth ☐ Other ☐

**Method of Calculation:** The Imperiled Aquatic Species Indicator was developed using the MDNR Wildlife and Heritage Division listing information for amphibian, fish, crayfish and mussel species. Distributions of these animals within the 134 (8 digit) watersheds were determined and scored from 0 -10 based on the number of sites with rare species, their status (endangered, rare...), and the diversity of aquatic animals within each 8 digit watershed.

**Watershed Scale:** Tributary Strategy Region ☐ USGS 8 Digit ☐ MD 6 Digit ☐  
MD 8 Digit ☒ MD 12 Digit ☐ Any ☐

**Data Custodian:** Marty Hurd (MDNR/RAS/MANTA - 410-260-8604)

**Clean Water Goal:** Yes ☐ No ☒

**Other Natural Resource Goal:** Yes ☒ No ☐

**If Yes:** Benchmark Goal ☐ Relative Goal ☒

**Assumptions:** \_\_\_\_\_

**Comments:** Preliminary benchmarks for selecting potential candidate watersheds for Category III only are: *Imperiled Aquatic Species Indicator score > 0*.

**References:** MDNR (Maryland Department of Natural Resources). 1994. Rare, threatened, and endangered animals of Maryland. Maryland Natural Heritage Program. Annapolis, Maryland.

Kazyak, P. 1996. Maryland biological stream survey sampling manual. Maryland Department of Natural Resources. Monitoring and Non-tidal Assessment division. Annapolis, Maryland.

Memorandum dated 8 July 1998 From Bob Lunsford to Paul Massicot

***Appendix to Metadata for Imperiled Aquatic Species Indicator (non-tidal)***

The following species were used to calculate the IASI score. Species were either classed as T1 (state rare, watch list, possibly rare) or T2 (highly state rare, endangered, or threatened).

<b>T1 - species</b>	<b>T2 - species</b>
ALEWIFE FLOATER	IRONCOLOR SHINER
AMERICAN BROOK LAMPREY	LOGPERCH
BANDED DARTER	MUD SUNFISH
CAMBARUS ACUMINATUS	GLASSY DARTER
CHECKERED SCULPIN	HELLBENDER
COMELY SHINER	STONECAT
EASTERN MUD TURTLE	STRIPEBACK DARTER
FLIER	
JEFFERSON SALAMANDER	
JOHNNY DARTER	
NORTHERN LANCE	
ORCONECTES OBSCURUS	
PEARL DACE	
QUEEN SNAKE	
RAINBOW DARTER	
SPOTTED TURTLE	
SQUAWFOOT	
STRIPED SHINER	
SWAMP DARTER	
WARMOUTH	
WOOD TURTLE	
YELLOW LANCE	

8-digit watersheds were scored based on the presence of combinations of T1 and T2 species.

<b>Indicator score</b>	<b>Scoring criteria</b>
10	Presence of two T2 species within an 8-digit watershed
9	Presence of one T2 species within an 8-digit watershed
8	Presence of three T1 species within an 8-digit watershed
7	Presence of two T1 species within an 8-digit watershed
6	Presence of one T1 species within an 8-digit watershed
0	None
.	NA (no sampling sites in watershed)